

- 38 -

We claim:

1. A hair care formulation that enhances visual and/or tactile qualities of
5 the hair, comprising:
 - a pyridoxine hydrochloride;
 - a glycyrrhizinic acid;
 - a pantothenic acid;
 - a pyrrolidone;
 - 10 an antimicrobial agent;
 - zinc; and
 - an antioxidant.
2. The hair care formulation of claim 1, wherein the formulation comprises
15 about:
 - 0.00001-10% pyridoxine hydrochloride;
 - 0.0001-12% glycyrrhizinic acid;
 - 0.001-20% pantothenic acid;
 - 0.0001-7% pyrrolidone;
 - 20 0.0001-15% antimicrobial agent;
 - 0.0001-10% zinc; and
 - 0.00001-5% antioxidant.
3. The hair care formulation of claim 2, wherein the formulation comprises
25 about:
 - 0.1% pyridoxine hydrochloride;
 - 0.05% glycyrrhizinic acid;
 - 0.125 pantothenic acid;
 - 0.01% pyrrolidone;

- 39 -

0.05% antimicrobial agent;
0.01% zinc; and
0.01% antioxidant.

5 4. The hair care formulation of claim 1, where in the glycyrrhizinic acid
comprises one or more of monoammonium glycyrrhezinate or dipotassium
glycyrrhezinate.

10 5. The hair care formulation of claim 1, wherein the pantothenic acid
comprises panthenol.

6. The hair care formulation of claim 1, wherein the pyrrolidone comprises
pyrrolidone carboxylic acid.

15 7. The hair care formulation of claim 1, wherein the antimicrobial agent
comprises one or more of cajuput oil, lemongrass, lavender, or tea tree oil.

20 8. The hair care formulation of claim 7, wherein the antimicrobial agent
comprises tea tree oil.

9. The hair care formulation of claim 1, wherein the zinc comprises a zinc
containing compound.

25 10. The hair care formulation of claim 9, wherein the zinc containing
compound comprises a zinc pyrrolidone.

11. The hair care formulation of claim 10, wherein the zinc pyrrolidone
comprises zinc pyrrolidone carboxylic acid.

- 40 -

12. The hair care formulation of claim 1, wherein the antioxidant comprises one or more of green tea extract and superoxide dismutase.

5 13. The hair care formulation of claim 1, further comprising a blood flow stimulator.

14. The hair care formulation of claim 13, wherein the blood flow stimulator comprises one or more of zingiber officinale root oil, zingiber officinale extract, or
10 menthol.

15. The hair care formulation of claim 1, further comprising a moisturizer.

16. The hair care formulation of claim 1, wherein the formulation comprises
15 about:

0.00001-10% pyridoxine hydrochloride;
0.0001-12% dipotassium glycyrrhizinic acid;
0.001-20% panthenol;
0.0001-10% zinc pyrrolidone carboxylic acid;
20 0.0001-15% tea tree leaf oil;
0.0001-10% zinc; and
0.00001-5% green tree extract or superoxide dismutase.

17. The hair care formulation of claim 16, comprising about:
25 0.1% pyridoxine hydrochloride;
0.05% dipotassium glycyrrhizinic acid;
0.125% panthenol;
0.1% zinc pyrrolidone carboxylic acid;

- 41 -

0.05% tea tree leaf oil;
0.1% zinc; and
0.1% green tree extract or superoxide dismutase.

5 18. The hair care formulation of claim 16, wherein the hair care formulation
is included in a separate shampoo formulation and conditioner formulation.

 19. The hair care formulation of claim 18, wherein the hair care formulation
is also included in a separate scalp treatment formulation, which is not a shampoo
10 formulation or conditioner formulation.

 20. The hair care formulation of claim 18, wherein the hair care formulation
is also included in a separate revitalizing conditioner formulation.

15 21. The hair care formulation of claim 16, wherein the hair care formulation
is included in a separate shampoo formulation, conditioner formulation, revitalizing
conditioner formulation, and scalp treatment formulation.

 22. The hair care formulation of claim 18, wherein the shampoo and
20 conditioner formulations comprise a set of two shampoos and two conditioners.

- 42 -

23. The hair care formulation of claim 1, wherein the hair care formulation is a scalp treatment formulation comprising about:

Ingredient	Percentage by Weight (w/w)
Water	90.2200
SD Alcohol 40-B	5.0000
Isoceteth-20	1.5000
Benzyl Alcohol	0.4500
Water and Butylene Glycol and Serenoa Serrulata (Saw Palmetto) Fruit Extract	0.2500
Water and Butylene Glycol and Panax Ginseng Root Extract	0.2500
Panthenol (Liquid 50%)	0.2500
Water and Butylene Glycol and Swertia Japonica Extract	0.2500
Water and Butylene Glycol and Zingiber Officinale (Ginger) Root Extract	0.2500
Sodium Benzoate	0.3000
Methylparaben	0.2000
Polysorbate 80	0.1500
Zinc PCA	0.1000
Galactoarabinan	0.1000
Tocopheryl Acetate	0.1000
Pyridoxine HCl	0.1000
Propylparaben	0.1000
Disodium EDTA	0.1000
Menthol	0.0500
Melaleuca Alternifolia (Tea Tree) Leaf Oil	0.0500
Dipotassium Glycyrrhizate	0.0500
Camellia Sinensis Leaf Extract	0.0500
Superoxide Dismutase	0.0100
Zingiber Officinale (Ginger) Root Oil	0.0500
Butylparaben	0.0500
Ubiquinone (Coenzyme Q-10)	0.0100
Retinyl Palmitate	0.0100
Total	100.0000

5 24. The hair care formulation of claim 1, wherein the hair care formulation is a daily shampoo formulation or deep cleansing shampoo formulation comprising about:

- 43 -

Ingredient	Percentage by Weight (w/w)	
	Daily Shampoo	Deep Cleansing Shampoo
Sodium Lauryl Sulfoacetate and Disodium Laureth Sulfosuccinate	26.00000	-
Ammonium Laureth Sulfate	21.50000	18.30000
Water	27.12222	43.83222
Decyl Glucoside	-	18.30000
Cocamidopropyl Betaine	14.50000	15.25000
Coco-Glucoside and Glyceryl Oleate	4.50000	-
PEG-120 Methyl Glucose Dioleate	-	2.00000
Butylene Glycol	1.75000	-
Sodium Coco PG-Dimonium Chloride Phosphate	0.50000	0.50000
Triethanolamine 99%	0.80000	0.42000
Sodium Benzoate	0.40000	0.40000
Fragrance	0.40000	0.35000
Citric Acid	-	0.12000
Capryloyl Glycine	0.20000	0.20000
Undecylenoyl Glycine	0.10000	0.10000
Polysorbate 80	0.00722	0.00722
Stearyldimonium Hydroxypropyl Hydrolyzed Wheat Protein	1.00000	-
Wheat Amino Acids	1.00000	-
Phytantriol	0.10000	0.10000
Panthenol (50% liquid)	0.10000	0.10000
Water and Butylene Glycol and Swertia Japonica Extract	0.00722	0.00722
Butylene Glycol and Panax Ginseng Root Extract	0.00361	0.00361
Butylene Glycol and Serenoa Serrulata Extract	0.00361	0.00361
Pyridoxine Hydrochloride (Vitamin B6)	0.00144	0.00144
Zinc PCA	0.00144	0.00144
Superoxide Dismutase	0.00108	0.00108
Camellia Sinensis Leaf Extract (Green Tea Extract)	0.00072	0.00072
Dipotassium Glycyrrhizate	0.00072	0.00072
Melaleuca Alternifolia (Tea Tree) Leaf Oil	0.00072	0.00072
Total	100.00000	100.00000

25. The hair care formulation of claim 1, wherein the hair care formulation is
a light conditioner formulation or revitalizing conditioner formulation comprising

5 about:

- 44 -

Ingredient	Percentage by Weight (w/w)	
	Light Conditioner	Revitalizing Conditioner
Water	79.77222	76.24222
Glyceryl Stearate (and) PEG-100 Stearate	3.50000	-
C14-22 Alkylalcohol and C12-20 Alkylglucoside	2.50000	3.00000
Behentrimonium Chloride	-	2.50000
Cyclomethicone	2.00000	1.50000
Quaternium-82	2.00000	-
Cetyl Alcohol	1.50000	2.50000
Wheat Germamidopropyl Dimonium Hydroxypropyl		
Hydrolyzed Wheat Protein	-	3.00000
Glyceryl Stearate and PEG-100 Stearate	-	1.50000
Trilaureth-4 Phosphate	-	1.50000
Stearyl Alcohol	1.20000	1.00000
Glyceryl Stearate	1.00000	-
Benzyl Alcohol	0.95000	0.95000
Hydroxyethylcellulose	0.75000	1.00000
Sodium Coco PG-Dimonium Chloride Phosphate	0.50000	0.50000
Stearamidopropyl Dimethylamine	-	0.50000
Citric Acid	0.45000	0.28000
Fragrance	0.40000	0.40000
Stearamidopropyl Dimethylamine	0.40000	0.50000
Hydrogenated Vegetable Oil	0.25000	-
Phenyl Trimethicone	0.25000	-
Methylparaben	0.20000	0.20000
Sodium Benzoate	0.20000	0.20000
Disodium EDTA	0.10000	0.10000
Propylparaben	0.10000	0.10000
Butylparaben	0.05000	0.05000
Polysorbate 80	0.00722	0.00722
Stearyldimonium Hydroxypropyl Hydrolyzed Wheat Protein	0.50000	-
Wheat Amino Acids	0.50000	1.00000
Cinnamidopropyltrimonium Chloride	0.50000	0.50000
Phytantriol	0.10000	0.10000
Panthenol (50% Liquid)	0.10000	-
Galactoarabinan	0.20000	0.20000
Sodium Cocoyl Amino Acids and Potassium Dimethyl		
Copolyol Panthenyl Phosphate	-	0.10000
Butylene Glycol and Helianthus Annuus (Sunflower) Seed	-	0.05000

- 45 -

Extract		
Water and Butylene Glycol and Swertia Japonica Extract	0.00722	0.00722
Butylene Glycol and Panax Ginseng Root Extract	0.00361	0.00361
Butylene Glycol and Serenoa Serrulata Extract	0.00361	0.00361
Pyridoxine Hydrochloride (Vitamin B6)	0.00144	0.00144
Zinc PCA	0.00144	0.00144
Superoxide Dismutase	0.00108	0.00108
Camellia Sinensis Leaf Extract (Green Tea Extract)	0.00072	0.00072
Dipotassium Glycyrrhizate	0.00072	0.00072
Melaleuca Alternifolia (Tea Tree) Leaf Oil	0.00072	0.00072
Total	100.00000	100.00000

26. A set of hair care formulations, comprising first and second shampoo formulations, first and second conditioner formulations, and a scalp treatment formulation, wherein the scalp treatment formulation comprises about:

5

Ingredient	Percentage by Weight (w/w)
Water	90.2200
SD Alcohol 40-B	5.0000
Isoceteth-20	1.5000
Benzyl Alcohol	0.4500
Water and Butylene Glycol and Serenoa Serrulata (Saw Palmetto) Fruit Extract	0.2500
Water and Butylene Glycol and Panax Ginseng Root Extract	0.2500
Panthenol (Liquid 50%)	0.2500
Water and Butylene Glycol and Swertia Japonica Extract	0.2500
Water and Butylene Glycol and Zingiber Officinale (Ginger) Root Extract	0.2500
Sodium Benzoate	0.3000
Methylparaben	0.2000
Polysorbate 80	0.1500
Zinc PCA	0.1000
Galactoarabinan	0.1000
Tocopheryl Acetate	0.1000
Pyridoxine HCl	0.1000
Propylparaben	0.1000
Disodium EDTA	0.1000
Menthol	0.0500
Melaleuca Alternifolia (Tea Tree) Leaf Oil	0.0500
Dipotassium Glycyrrhizate	0.0500

- 46 -

Camellia Sinensis Leaf Extract	0.0500
Superoxide Dismutase	0.0100
Zingiber Officinale (Ginger) Root Oil	0.0500
Butylparaben	0.0500
Ubiquinone (Coenzyme Q-10)	0.0100
Retinyl Palmitate	0.0100
Total	100.0000

the first shampoo formulation is a daily shampoo formulation and the second shampoo formulation is a deep cleansing shampoo formulation, wherein the daily shampoo formulation and deep cleansing formulation comprise about:

5

Ingredient	Percentage by Weight (w/w)	
	Daily Shampoo	Deep Cleansing Shampoo
Sodium Lauryl Sulfoacetate and Disodium Laureth Sulfosuccinate	26.00000	-
Ammonium Laureth Sulfate	21.50000	18.30000
Water	27.12222	43.83222
Decyl Glucoside	-	18.30000
Cocamidopropyl Betaine	14.50000	15.25000
Coco-Glucoside and Glyceryl Oleate	4.50000	-
PEG-120 Methyl Glucose Dioleate	-	2.00000
Butylene Glycol	1.75000	-
Sodium Coco PG-Dimonium Chloride Phosphate	0.50000	0.50000
Triethanolamine 99%	0.80000	0.42000
Sodium Benzoate	0.40000	0.40000
Fragrance	0.40000	0.35000
Citric Acid	-	0.12000
Capryloyl Glycine	0.20000	0.20000
Undecylenoyl Glycine	0.10000	0.10000
Polysorbate 80	0.00722	0.00722
Stearyldimonium Hydroxypropyl Hydrolyzed Wheat Protein	1.00000	-
Wheat Amino Acids	1.00000	-
Phytantriol	0.10000	0.10000
Panthenol (50% liquid)	0.10000	0.10000
Water and Butylene Glycol and Swertia Japonica Extract	0.00722	0.00722
Butylene Glycol and Panax Ginseng Root Extract	0.00361	0.00361
Butylene Glycol and Serenoa Serrulata Extract	0.00361	0.00361

- 47 -

Pyridoxine Hydrochloride (Vitamin B6)	0.00144	0.00144
Zinc PCA	0.00144	0.00144
Superoxide Dismutase	0.00108	0.00108
Camellia Sinensis Leaf Extract (Green Tea Extract)	0.00072	0.00072
Dipotassium Glycyrrhizate	0.00072	0.00072
Melaleuca Alternifolia (Tea Tree) Leaf Oil	0.00072	0.00072
Total	100.00000	100.00000

the first conditioner formulation is a light conditioner and the second conditioner formulation is a revitalizing conditioner formulation, wherein the first and second conditioner formulations comprise about:

5

Ingredient	Percentage by Weight (w/w)	
	Light Conditioner	Revitalizing Conditioner
Water	79.77222	76.24222
Glyceryl Stearate (and) PEG-100 Stearate	3.50000	-
C14-22 Alkylalcohol and C12-20 Alkylglucoside	2.50000	3.00000
Behentrimonium Chloride	-	2.50000
Cyclomethicone	2.00000	1.50000
Quaternium-82	2.00000	-
Cetyl Alcohol	1.50000	2.50000
Wheat Germamidopropyl Dimonium Hydroxypropyl		
Hydrolyzed Wheat Protein	-	3.00000
Glyceryl Stearate and PEG-100 Stearate	-	1.50000
Trilaureth-4 Phosphate	-	1.50000
Stearyl Alcohol	1.20000	1.00000
Glyceryl Stearate	1.00000	-
Benzyl Alcohol	0.95000	0.95000
Hydroxyethylcellulose	0.75000	1.00000
Sodium Coco PG-Dimonium Chloride Phosphate	0.50000	0.50000
Stearamidopropyl Dimethylamine	-	0.50000
Citric Acid	0.45000	0.28000
Fragrance	0.40000	0.40000
Stearamidopropyl Dimethylamine	0.40000	0.50000
Hydrogenated Vegetable Oil	0.25000	-
Phenyl Trimethicone	0.25000	-
Methylparaben	0.20000	0.20000
Sodium Benzoate	0.20000	0.20000

- 48 -

Disodium EDTA	0.10000	0.10000
Propylparaben	0.10000	0.10000
Butylparaben	0.05000	0.05000
Polysorbate 80	0.00722	0.00722
Stearyltrimonium Hydroxypropyl Hydrolyzed Wheat Protein	0.50000	-
Wheat Amino Acids	0.50000	1.00000
Cinnamidopropyltrimonium Chloride	0.50000	0.50000
Phytantriol	0.10000	0.10000
Panthenol (50% Liquid)	0.10000	-
Galactoarabinan	0.20000	0.20000
Sodium Cocoyl Amino Acids and Potassium Dimethyl		
Copolyol Panthenyl Phosphate	-	0.10000
Butylene Glycol and Helianthus Annuus (Sunflower) Seed	-	0.05000
Extract		
Water and Butylene Glycol and Swertia Japonica Extract	0.00722	0.00722
Butylene Glycol and Panax Ginseng Root Extract	0.00361	0.00361
Butylene Glycol and Serenoa Serrulata Extract	0.00361	0.00361
Pyridoxine Hydrochloride (Vitamin B6)	0.00144	0.00144
Zinc PCA	0.00144	0.00144
Superoxide Dismutase	0.00108	0.00108
Camellia Sinensis Leaf Extract (Green Tea Extract)	0.00072	0.00072
Dipotassium Glycyrrhizate	0.00072	0.00072
Melaleuca Alternifolia (Tea Tree) Leaf Oil	0.00072	0.00072
Total	100.00000	100.00000

27. A method of enhancing an appearance and/or texture of hair, comprising applying the hair care formulation of claim 1 to the hair.

5 28. The method of claim 27, wherein the hair care formula of claim 1 is the hair care formulation of claim 16.

29. The method of claim 28, wherein the hair care formulation is included in a separate shampoo formulation and conditioner formulation, and the shampoo
10 formulation is applied to the hair to cleanse it, and the conditioner formulation is applied to the hair to condition it.

- 49 -

30. The method of claim 28 wherein the hair care formulation is included in a separate shampoo formulation, deep cleansing shampoo formulation, conditioner formulation, revitalizing conditioner formulation, and scalp treatment formulation, wherein:

5 the deep cleansing shampoo formulation is applied to the hair 1-2 times per week, and the daily shampoo is applied the other days of the week;
the revitalizing conditioner formulation is applied 1-2 times per week, and the light conditioner formulation is applied to the hair the other days of the week; and
the scalp treatment formulation is applied to the scalp each day of the week.

10

31. The method of claim 30, wherein the scalp treatment formulation is the scalp treatment formulation of claim 23.

32. The method of claim 30, wherein the daily shampoo formulation and
15 deep cleansing formulation are the daily shampoo formulation and deep cleansing formulation of claim 24.

33. The method of claim 30, wherein the revitalizing conditioner formulation and light conditioner formulation are the revitalizing conditioner formulation and light
20 conditioner formulation of claim 25.

34. The method of claim 27, wherein the hair care formulation is the scalp treatment formulation of claim 23.

25 35. A kit, comprising a shampoo and conditioner each of which comprise the formulation of claim 1.

- 50 -

36. The kit of claim 35, further comprising a scalp treatment formulation comprising the formulation of claim 1.

5 37. The kit of claim 35, wherein the shampoo comprises a regular shampoo and a deep cleansing shampoo.

38. The kit of claim 35, wherein the conditioner comprises a regular conditioner and a deep conditioner.

10 39. The kit of claim 35, further comprising instructions not to use another shampoo and conditioner other than the shampoo and conditioner of claim 35.

15 40. The kit of claim 37, further comprising a scalp treatment formulation comprising the formulation of claim 1, and wherein the conditioner comprises a regular conditioner and a deep conditioner.